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Periodic Statistical Analysis

Open or create a project and open the SDX file.

Click the **Signal period statistics** button  on the main toolbar. The following window appears:

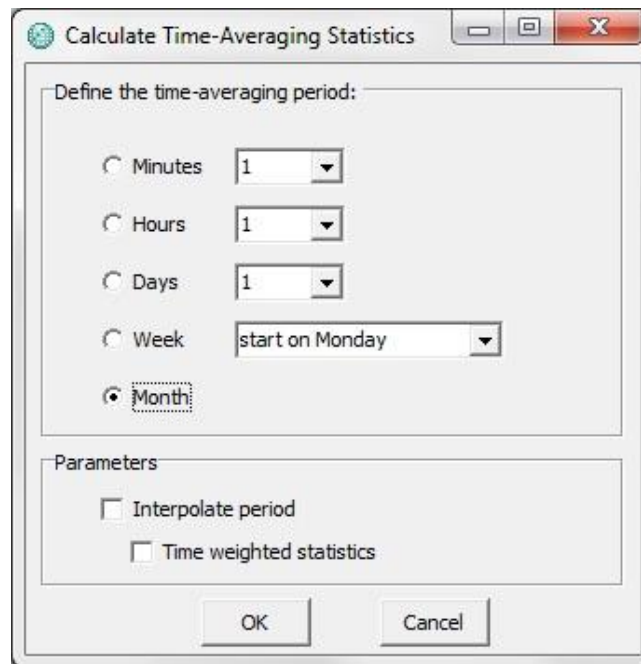


Figure 1 Calculate Time-Averaging Statistics

Define the period you want to analyze (minutes, hours, days, week, and month).

In the test file, **Month** has been selected.

Interpolate period: If checked this option will add points at the beginning and the end of the period.

Time weighted statistics: If checked the statistics will be time weighted.

Click **OK** and a statistics chart appears:

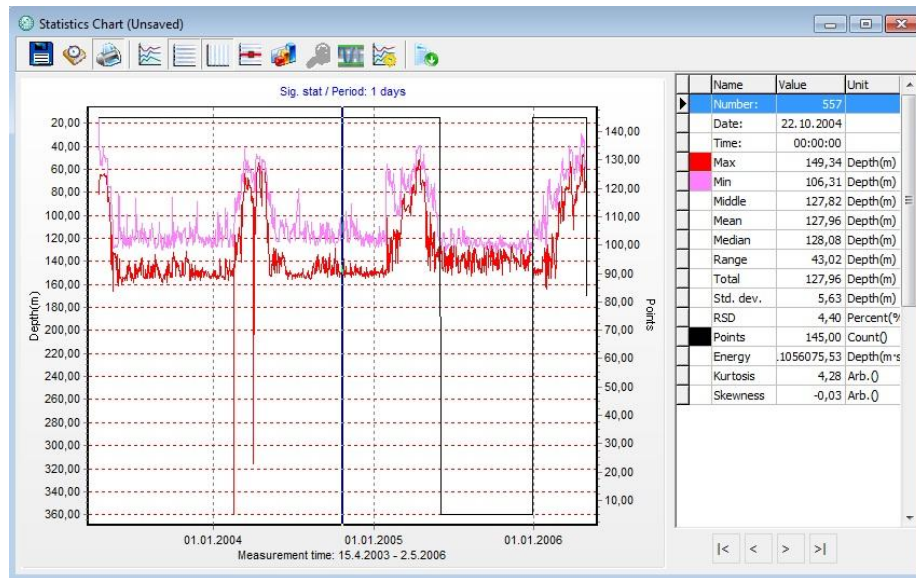


Figure 2 Statistics Chart

Each point in the chart represents a statistical value for the selected period. Save the chart and a STA file will be created.

There are 13 parameters in total, each with its own colour. By moving the cursor on the chart the value for each parameter is shown in the table on the right side of the chart (see figure 3).

	Name	Value	Unit
▶	Number:	557	
	Date:	22.10.2004	
	Time:	00:00:00	
	Max	149,34	Depth(m)
	Min	106,31	Depth(m)
	Middle	127,82	Depth(m)
	Mean	127,96	Depth(m)
	Median	128,08	Depth(m)
	Range	43,02	Depth(m)
	Total	127,96	Depth(m)
	Std. dev.	5,63	Depth(m)
	RSD	4,40	Percent(%)
	Points	145,00	Count()
	Energy	.1056075,53	Depth(m*s)
	Kurtosis	4,28	Arb.()
	Skewness	-0,03	Arb.()

Figure 3 Table

The table lists the following parameters:

Number of the period

Date of the period

Time of the period

- **Max:** Maximum value of the period
- **Min:** Minimum value of the period
- **Middle:** The average of the max and min value
- **Mean:** The time weighted average value
- **Median:** The mid value in the sequence of measurements arranged by amplitude
- **Range:** The difference between max and min
- **Total:** The total sum of all the values in the period
- **Std. Dev.:** Standard deviation
- **RSD:** Relative standard deviation
- **Points:** Number of points in the period
- **Energy:** An indication of the area the signal defines over time. The energy unit is the signal unit multiplied by the time unit in seconds, for example, a temperature signal (°C) has the energy unit =°C·s
- **Kurtosis:** A measure of the “peakedness” of the distribution and how it varies from the normal distribution. A zero value indicates a normal distribution. A positive value indicates a peaked distribution while a negative value indicates a flat distribution.
- **Skewness:** A measure of the asymmetry of the distribution and how it differs from a normal distribution. A zero value indicates a normal distribution. A positive value indicates a positively skewed distribution while a negative value indicates a negatively skewed distribution.

To select the parameters you want to view in the chart, click the **Active Series** button  on the chart bar. The following window appears:

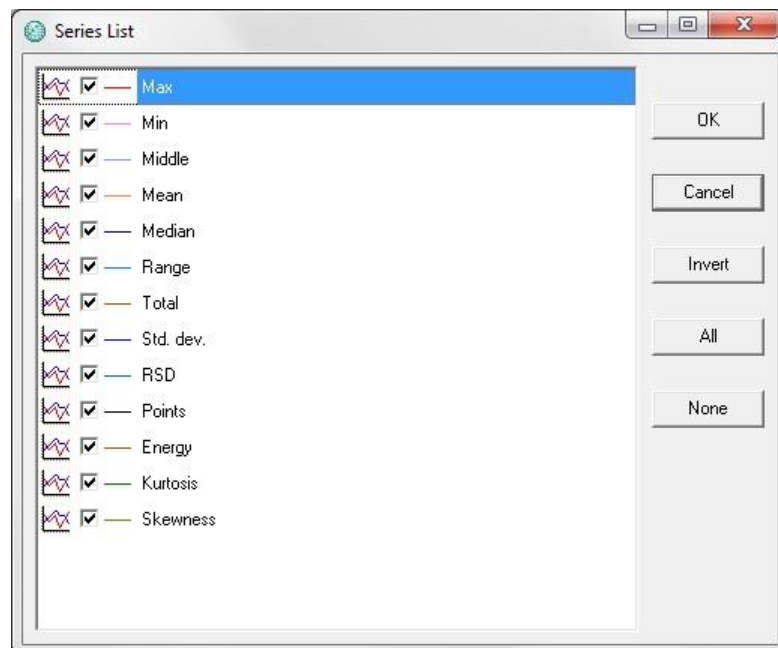


Figure 4 Active Series

In the chart below, all the parameters have been selected.

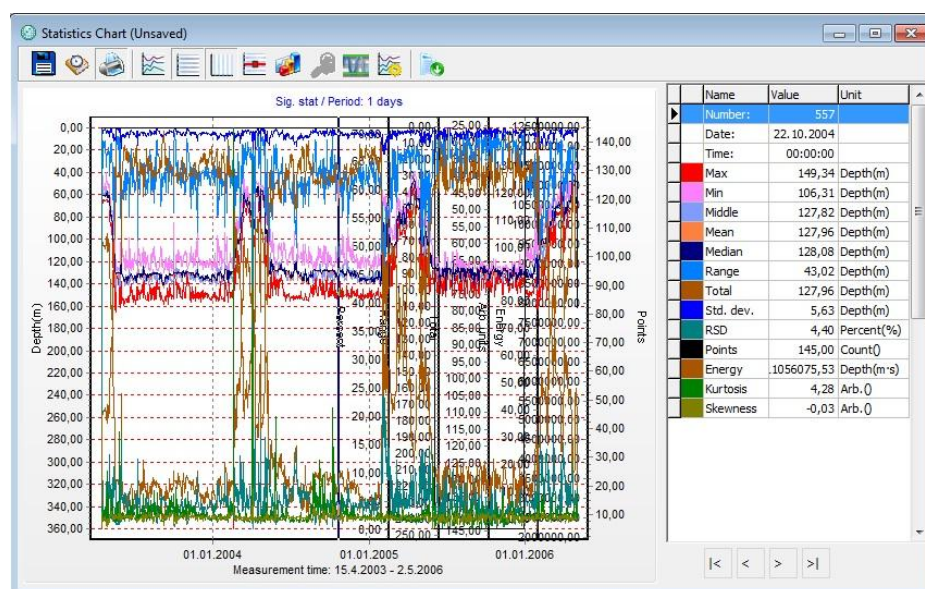


Figure 5 Statistics Chart

Extract Signal from STA file

To extract a signal from the STA file, click the **Select signal to signal chart** button on the main toolbar  and the following window appears:

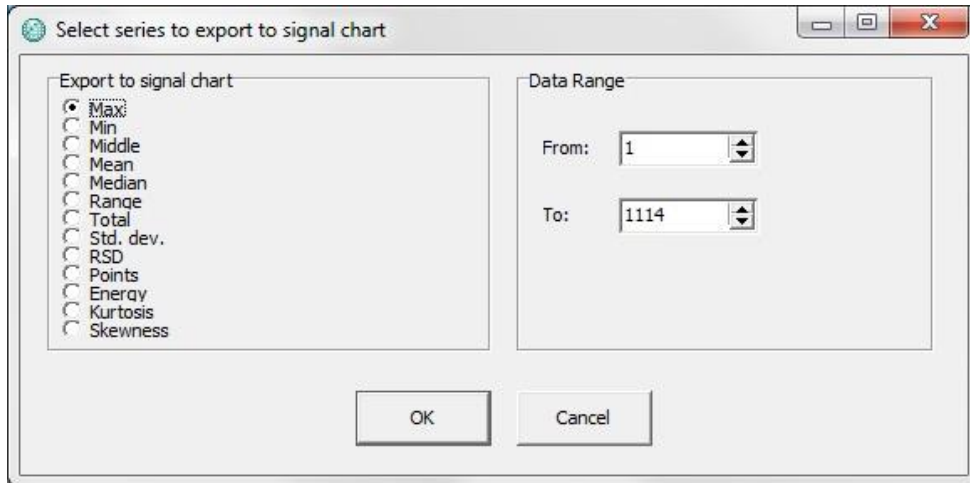


Figure 6 Select series to export to signal chart

Select the parameter and the data range you want to extract and click **OK**.

The following chart appears:

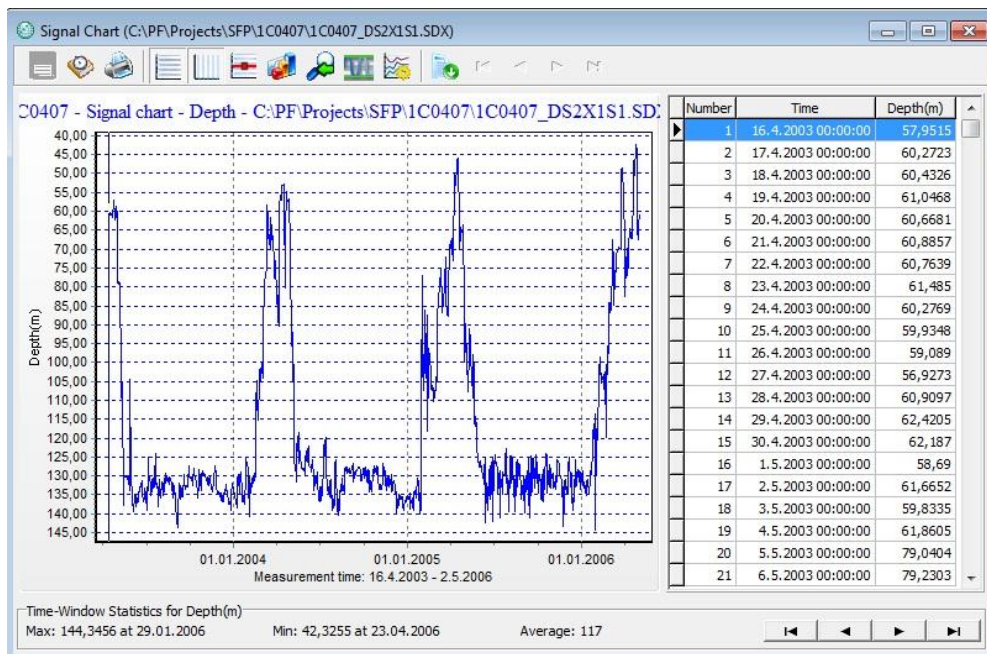


Figure 7 Signal Chart

History

Click the **History** button  on the chart bar to add comments and view information on the origin of the signal and the progress of the project (see figure 8). Click **Print** to print out the information (see figure 9).

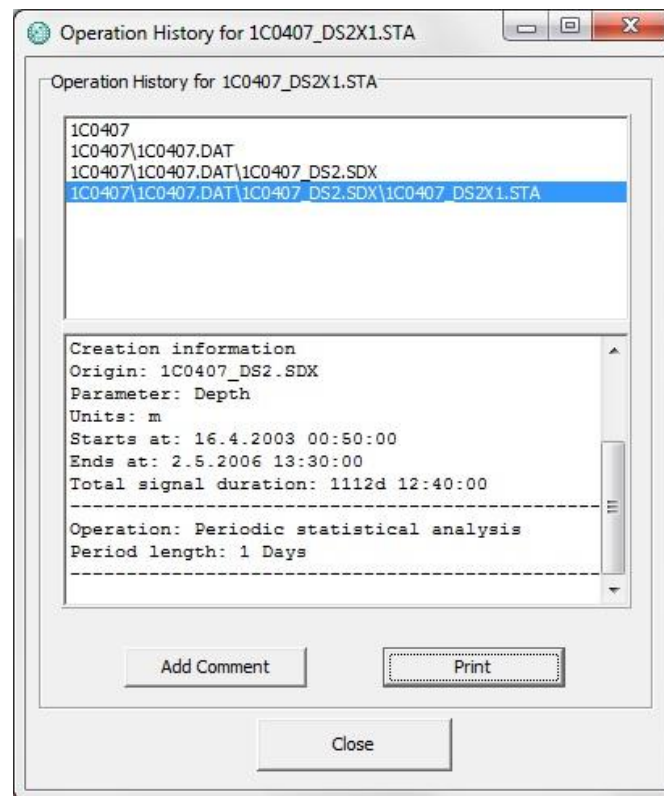


Figure 8 History

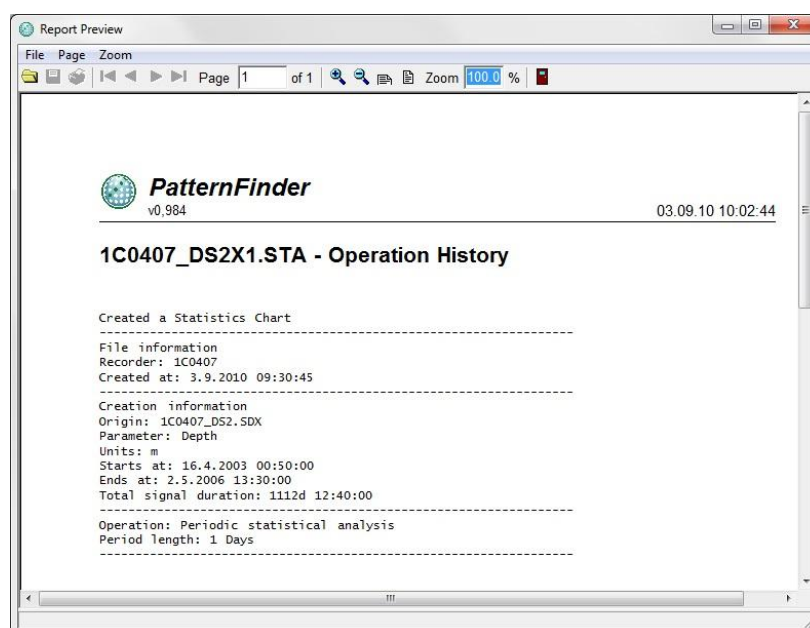


Figure 9 Print Preview